

Claims

Sub 17 1. A tire apparatus for driving a vehicle during periods of low tire pressure and normal tire pressure, comprising:

a rim having a first bead seat and a second bead seat, and said rim having a cylindrical section intermittent said first and second bead seats, said rim configured for attachment to a wheel of the vehicle;

a support ring disposed on said cylindrical section of said rim, said support ring configured for supporting the vehicle during periods of low tire pressure; and

a tire having a tread portion and a pair of side walls adjacent said tread portion, said tire having a first bead at one end of one of said side walls and a second bead at one end of the other of said side walls, said first bead disposed in said first bead seat and said second bead disposed in said second bead seat, at least one of said first and second bead seats having a plurality of friction members disposed thereon to prevent relative rotational movement between said tire and said rim, said first bead and said first bead seat forming a first air seal zone and said second bead and said second bead seat forming a second air seal zone, said friction members being spaced from at least one of said first and second air seal zones.

2. The tire apparatus of claim 1, wherein said friction members are ridges on the surface of said bead seats, said ridges are oriented in a substantially axial direction.

3. The tire apparatus of claim 1, wherein said friction members are depressions in the surface of said bead seats, said depressions are oriented in a substantially axial direction.

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4. The tire apparatus of claim 1, wherein said friction members are ridges on the surface of said bead seats with depressions in the surface of said bead seats located immediately adjacent thereto; both said ridges and said depressions are oriented in a substantially axial direction.

5. The tire apparatus of claim 1, wherein said friction members are grit on the surface of said bead seats.

6. The tire apparatus of claim 1, wherein said bead seats have a rough surface to form said friction members.

7. The tire apparatus of claim 1, wherein at least one of said beads have a plurality of friction members on the surface of said beads to prevent relative rotational movement between said tire and said rim.

8. The tire apparatus of claim 1, wherein said first bead and said second bead are of different diameters.

9. The tire apparatus of claim 8, wherein said first bead seat and said second bead seat are of different diameters.

SUB D17 10. A tire apparatus for driving a vehicle during periods of low tire pressure and normal tire pressure, comprising:

5 a tire having a tread section, said tire also having a pair of side walls located adjacent said tread section, a first bead is located at an end of one of the side walls and a second bead is located at an end of the other side wall; and

10 a rim having a first bead seat and a second bead seat, said rim is configured for attachment to a wheel of a vehicle, said rim having a support member for engaging said tire during periods of low tire pressure, at least one of said first and second bead seats having a plurality of friction members to prevent relative rotational movement between said tire and said rim.

11. The tire apparatus of claim 10, wherein said friction members are ridges on the surface of said bead seats, said ridges are oriented in a substantially axial direction.

12. The tire apparatus of claim 10, wherein said friction members are depressions in the surface of said bead seats, said depressions are oriented in a substantially axial direction.

SUB D17 13. The tire apparatus of claim 10, wherein said friction members are ridges on the surface of said bead seats with depressions in the surface of said bead seats located immediately adjacent thereto, both said ridges and said depressions are oriented in a substantially axial direction.

14. The tire apparatus of claim 10, wherein said friction members are grit on the surface of said bead seats.

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15. The tire apparatus of claim 10, wherein said bead seats have a rough surface to form said friction members.

16. The tire apparatus of claim 10, wherein at least one of said beads have a plurality of friction members on the surface of said beads to prevent relative rotational movement between said tire and said rim.

17. The tire apparatus of claim 10, wherein at least one of said first bead seats and said second bead seats is formed by a pair of humps in said rim.

18. The tire apparatus of claim 10, wherein said first bead and said second bead are of different diameters.

19. The tire apparatus of claim 18, wherein said first bead seat and said second bead seat are of different diameters.

20. A tire apparatus for driving a vehicle during periods of low tire pressure and normal tire pressure, comprising:

a rim having a first bead seat and a second bead seat, and said rim having a cylindrical section intermittent said first and second bead seats, said rim configured for attachment to a wheel of the vehicle;

a support ring disposed on said cylindrical section of said rim, said support ring configured for supporting the vehicle during periods of low tire pressure; and

a tire having a tread portion and a pair of side walls adjacent said tread portion, said tire having a first bead at one end of one of said side walls and a second bead at one end of the other of said side walls, said first bead disposed

1 in said first bead seat and said second bead disposed in said second bead seat,  
 at least one of said first and second bead seats having grit disposed thereon to  
 prevent relative rotational movement between said tire and said rim, said first  
 15 bead and said first bead seat forming a first air seal zone and said second bead  
 and said second bead seat forming a second air seal zone, said grit being spaced  
 from said first and second air seal zones.

21. A tire apparatus for driving a vehicle during periods of low tire  
 pressure and normal tire pressure, comprising:

a tire having a tread section, said tire also having a pair of side walls  
 located adjacent said tread section, a first bead is located at an end of one of the  
 5 side walls and a second bead is located at an end of the other side wall, at least  
 one of said first and said second beads having a plurality of friction members to  
 prevent relative rotational movement between said tire and a rim; and

said rim having a first bead seat and a second bead seat, said rim is  
 configured for attachment to a wheel of a vehicle, said rim having a support  
 10 member for engaging said tire during periods of low tire pressure.